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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/065,091	09/17/2002	Fang-Chen Luo	5486-US-PA	4158
31561	7590	05/26/2006	EXAMINER	
JIANQ CHYUN INTELLECTUAL PROPERTY OFFICE 7 FLOOR-1, NO. 100 ROOSEVELT ROAD, SECTION 2 TAIPEI, 100 TAIWAN			CHOWDHURY, TARIFUR RASHID	
			ART UNIT	PAPER NUMBER
			2871	

DATE MAILED: 05/26/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/065,091

Applicant(s)

LUO ET AL.

Examiner

Tarifur R. Chowdhury

Art Unit

2871

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 10 March 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-13, 24-33 and 44-61 is/are pending in the application.
- 4a) Of the above claim(s) 24-33 and 44-55 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13 and 56-61 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

***Election/Restrictions***

1. After further consideration of the restriction requirement based on applicant's argument, the examiner is hereby withdrawing the restriction requirement imposed on December 12, 2005 and accordingly, claims 1-13 and 56-61 are examined on the merits.

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. **Claims 1-5, 7, 9, 10, 12, 13, 56-59 and 61 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fujino, USPAT 6,822,708.**

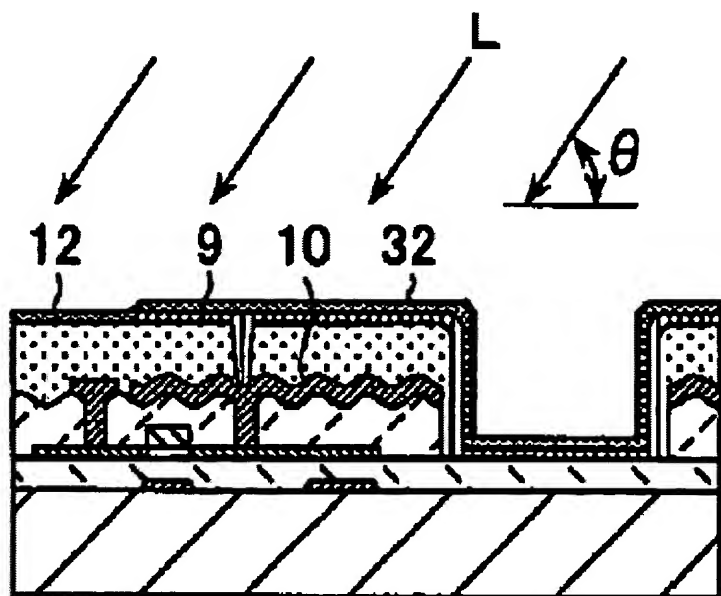
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5. Fujino discloses (col. 1, lines 13-14; col. 5, lines 18-35; col. 8, line 21-24) and shows in Fig. 11, a liquid crystal display (LCD) structure inherently comprising a first substrate panel (1) made of glass, a second substrate panel and a liquid crystal layer disposed between the first substrate panel and the second substrate panel, a plurality of pixel portions being formed by respective electrodes for applying a voltage to the liquid crystal layer (not shown), each of the pixel portions comprising:

- an insulating layer (5) such as photoresist over the first substrate panel (1), wherein the surface of the organic insulating layer has a plurality of protrude/recess structures thereon;
- a conformal reflective layer (10) over the organic insulating layer, wherein the conformal reflective layer serves as a reflector of light;
- a transparent dielectric layer (12) (insulating) over the conformal reflective layer, wherein the dielectric layer has a substantially planar surface (smoother upper surface than the bumpy organic insulating layer); and
- a first transparent conductive layer (9) over the transparent dielectric layer.

Fujino differs from the claimed invention because he does not explicitly disclose that the insulating layer (5) is made of an organic material such as photosensitive acrylic resin. However, it is notoriously well known in the art that using insulating layer made of organic material such as photosensitive acrylic resin is advantageous for several reasons, such as simplified manufacturing process resulting in reduced cost and thus would have been obvious.

Accordingly, claims 1-4 and 56-58 are anticipated.



As to claims 5 and 59, Fujino also discloses and shows in Fig. 11 that first substrate panel further includes a thin film transistor having a gate electrode (G), a source terminal (S) and a drain terminal (D) over the first substrate panel (1).

As to claim 7, Fujino also discloses that the material forming the conformal reflective layer includes aluminum or silver (col. 7, lines 49-53).

As to claims 9 and 61, Fujino further discloses that the transparent dielectric layer (12) includes a transparent insulating material (col. 7, lines 67).

As to claims 10 and 12, the LCD inherently includes a second substrate that is aligned to the first substrate panel, a second transparent conductive layer over the second substrate panel and a liquid crystal layer between the second transparent conductive layer and the first transparent conductive layer.

As to claim 13, employing a color filter between the second substrate panel and the second transparent conductive layer is notoriously common and known in the art and thus would have been obvious to obtain a color display.

**6. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fujino in view of Nakai et al., (Nakai), USPAT 6,144,429.**

7. Fujino discloses the LCD as recited above, however, fails to specifically disclose that the first conductive layer is connected to the TFT for controlling the liquid crystal layer.

Nakai discloses an LCD device (Fig. 13) having a first conductive layer (14) connected to the TFT (19) through the contact hole (22) and source electrode (25) for controlling the liquid crystal layer.

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to have the first conductive layer of Fujino connected to the TFT for controlling the liquid crystal layer since one would be motivated to provide a configuration that makes it possible to control the reflective layer, as it is situated in between the transistor and the transparent conductive layer, in order to provide a high efficiency of light utilization (col. 14, lines 59-60) in the control of the liquid crystals in addition to improved whitening, power savings due to a reduced resistance, and higher speed of operation (col. 4, lines 61-67). Ultimately, this not only provides improved picture quality (col. 4, lines 65-66), but also provides a display device that is more easily controlled and is more stable for4 optimal performance (col. 2, lines 14-17).

**8. Claims 8 and 60 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fujino in view of Kim et al., (Kim), USPAT 6,693,689.**

9. Fujino differs from the claimed invention because he does not explicitly disclose that transparent dielectric layer includes a color filter layer.

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Kim discloses an LCD device having a dielectric layer including a color filter (Fig. 12, ref. 117).

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to have a dielectric layer including a color filter since one would be motivated to improve color purity and improve the contrast ratio as well as the viewing angle (col. 8, lines 5-15).

**10. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fujino in view of Kubo et al., (Kubo), USPAT 6,819,379.**

11. Fujino differs from the claimed invention because he does not explicitly disclose a phase compensation plate and a polarizer on the second substrate panel opposite the side of the liquid crystal layer.

Kubo discloses an LCD device having a phase compensation plate (Fig. 1, ref. 7) and a polarizer (fig. 1, ref. 6) on the second substrate panel opposite to the side of the liquid crystal layer.

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to have a phase compensation plate and a polarizer on the second substrate panel opposite to the liquid crystal layer since one would be motivated to provide a satisfactory display with sufficiently high contrast (col. 5, lines 44-49) by minimizing the problems with an unsatisfactory black display and brightness (col. 1, line 62 – col. 2, line 10).

***Response to Arguments***

12. Applicant's arguments with respect to claims have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

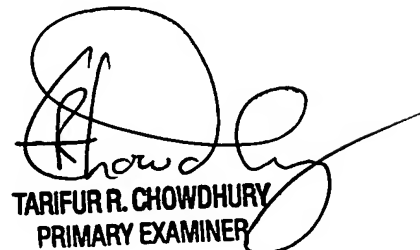
13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tarifur R. Chowdhury whose telephone number is (571) 272-2287. The examiner can normally be reached on M-Th (6:30-5:00) Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Nelms can be reached on (571) 272-1787. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TRC  
May 14, 2006

  
TARIFUR R. CHOWDHURY  
PRIMARY EXAMINER